

REMARKS

In the November 22, 2004 Office Action, the Examiner noted that claims 7-14 were pending in the application; objected to the Abstract; rejected claims 8-13 under the second paragraph of 35 U.S.C. § 112; rejected claims 7-9 under 35 U.S.C. § 102(e); and rejected claims 10-14 under 35 U.S.C. § 103(a). In rejecting the claims, U.S. Patents 6,114,862 to Tartagni et al. and 4,929,893 to Sato et al. (References A and B, respectively) were cited. Claims 7, 8 and 12-14 have been amended without adding new matter. Support for the amended claims can be found at paragraph [0011] on page 3 of the Substitute Specification. Claims 10-11 have been cancelled. Thus, claims 7-9 and 12-14 remain in the case. The Examiner's rejections are traversed below.

The Application

The subject application is directed to a method for detecting the position or the surface structure of an object, such as a mechanical workpiece. For example, when such an object is placed over an array of capacitive individual sensors having a lateral extent that is at most half the lateral extent of the object to be detected, at least one of the sensors experiences a capacitive disturbance at its surface through the presence of the object. As described in paragraph [0008] on page 2 of the Substitute Specification, the disturbance of the sensor is then electronically evaluated and processed to form an image of the object.

The Prior Art**U.S. Patent No. 6,114,862 to Tartagni et al.**

Tartagni et al. is directed to a capacitive distance sensor used as a fingerprint sensor to detect the identity of persons from their fingerprints "by measuring small distances between the sensor device and an object" (column 1, lines 63-65), i.e., the surface of the skin on the fingertip. The sensor includes a number of cells, which are arranged in an array and are electronically coupled with an electronic circuit to read the detected fingerprints. A distance between a first and second capacitor plate and a third capacitor plate formed by a skin surface is detected to conduct fingerprint measuring (see column 4, lines 33-37). According to Tartagni et al., the sensor can detect a solid, a liquid, a gas and "plasma-based things" in addition to fingerprints (see column 3, lines 17-20).

U.S. Patent No. 4,929,893 to Sato et al.

Sato et al. is directed to a wafer prober with a probe card for examination of chips formed on a wafer. The prober includes a wafer chuck for holding the wafer, contact needles attached to the probe card and a positioning system for adjusting the relative position between the probe card and the wafer to bring the contact needles in contact with relevant bonding pads on an examined chip. To accurately align the contact needles and the bonding pads, the wafer prober further includes a vision system having two television cameras for observing reference marks and bonding pads and contact needles. To measure angular orientation of the whole wafer, the wafer prober also includes a capacitive sensor, which can be moved along the circumference of the wafer such that the outer configuration of the wafer as well as height of the wafer in a vertical z-direction can be measured. According to Sato et al., the angular orientation is measured by detecting the orientation of a flat portion of the wafer (see column 10, lines 6-12).

Objection to the Abstract

In the first paragraph on page 4 of the Office Action, the Examiner objected to the Abstract as containing two separate paragraphs. In a telephone call on February 17, 2005, the Examiner indicated that the objection was due to a failure to review the Substitute Abstract filed February 12, 2002. It is understood that since the Substitute Abstract in the file is proper, the objection will be withdrawn.

Rejections under 35 U.S.C. § 112, Second Paragraph

In the second paragraph on page 4 of the Office Action, claims 8-13 were rejected under the second paragraph of 35 U.S.C. § 112, for indefiniteness. Claim 8 has been amended in response to this rejection. Withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 102

In the first paragraph on page 5 of the Office Action, claims 7-9 were rejected under 35 U.S.C. § 102(e) as anticipated by Tartagni et al. Amended claim 7 recites "electronically evaluating a capacitive disturbance of the outer surface of at least one individual sensor ... to detect at least one of the position and surface structure of a single electric component" (claim 7, last 3 lines). As discussed above, Tartagni et al. operates by detecting a distance between the sensor device and an object such as the skin of a finger; however, there is no suggestion in Tartagni et al. of detecting either a position or surface structure of a **single electric component**,

as now recited in claim 7. Instead, Tartagni et al. suggests that the sensor be used for non-electric items such as fingerprints and other biometric items, and non-biometric components involving handwriting detection (see column 2, lines 33-37).

For the above reasons, it is respectfully submitted that claim 7 patentably distinguishes over Tartagni et al. Since claims 8 and 9 depend from claim 7, it is submitted that claims 7-9 patentably distinguish over Tartagni et al. for the reasons discussed above.

Rejections under 35 U.S.C. § 103

In the second paragraph on page 6 of the Office Action, claims 10-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tartagni et al. in view of Sato et al. Claims 10-11 have been cancelled. Thus, the rejection with respect to claims 10-11 is moot.

It is respectfully submitted that claims 12-14 are patentable over Tartagni et al. in view of Sato et al., as neither Tartagni et al. nor Sato et al., taken individually, or in combination, teaches or suggests all of the features recited in the claims. As discussed above, Tartagni et al. does not disclose the limitation recited on the last 3 lines of claim 7. Furthermore, nothing has been cited or found in Sato et al. teaching or suggesting this limitation. Rather, Sato et al. discloses measuring the angular orientation of an entire wafer, along with its height. In particular, the angular orientation of the wafer is measured by detecting the orientation of a flat portion of the wafer. Thus, in Sato et al., it is the wafer that undergoes detection and a wafer is not an electric component.

Moreover, it is respectfully submitted that the method of detection taught by Sato et al. cannot be used to modify Tartagni et al. due to the differences in their capacitive sensing methods. In particular, since Sato et al. does not employ a plurality of sensors, only an edge of a wafer can be detected. On the other hand, Tartagni et al. relies on the use of multiple sensors to detect a fingerprint or similar object. Obtaining transversal position measurement using the sensor taught by Sato et al. requires a position system that carries the capacitive sensor along the wafer edge, because the single cell sensor of Sato et al. has no transversal spatial resolution. If Tartagni et al. and Sato et al. were combined, the primary method of operation of one of the references would have to be changed. Therefore, the references cannot be properly combined to reject the claims

In light of the foregoing, it is respectfully submitted that neither Tartagni et al. nor Sato et al., taken individually, or in combination, teaches or suggests the limitation recited in claim 7 discussed above and similar language recited in claim 14. Since claims 12 and 13 depend from

claim 7, it is submitted that claims 12 and 13 are patentable over Tartagni et al. for at least the reasons discussed above with respect to claim 7.

Summary

It is submitted that the references cited by the Examiner, taken individually or in combination, do not teach or suggest the features of the present claimed invention. Thus, it is submitted that claims 7-9 and 12-14 are in a condition suitable for allowance. Reconsideration of the claims is respectfully requested, and an early Notice of Allowance is earnestly solicited.

Finally, if there are any formal matters remaining after this Amendment, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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